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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of	)	
	)	
Amendment of Part 74 of the	)	RM No. _____
Commission's Rules Concerning	)	
FM Booster Station Protection of	)	MM Docket No. _____
FM Broadcast and FM Translator Stations	)	

To: The Commission

PETITION FOR RULE MAKING

KHWY, Inc. ("KHWY"), by its attorneys, hereby respectfully petitions the Commission to initiate a rule making to modify the Commission's rules to require applicants for FM booster stations to afford the same predicted contour overlap protection to authorized stations on the FM band that is currently required of applicants for FM translator authorizations. Specifically, Section 74.1204 of the Commission's Rules, 47 C.F.R. § 74.1204, should be amended so that applicants for FM booster stations must meet the same contour protection standards applicable to FM translator applications.

At present, no application for a full power FM, FM translator or LP100 station will be granted by the Commission unless the proposal meets the applicable predicted contour protection requirements of the Commission's rules, which in each instance demands minimum distance separation or contour protection relating to co-channel and first, second and third adjacent channel stations. 1/ *Only an applicant for a new or modified FM booster station may*

1/ *See* 47 C.F.R. § 73.207 (FM) (minimum distance separation), § 73.215 (FM) (contour protection), § 74.1204 (FM Translator) (contour protection) and § 73.807 (LP100) (minimum distance separation).

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ignore at the application stage the interference impact on co-channel and first, second and third adjacent channel stations. 2/ This rule making request seeks to remedy this anomaly by the amendment of Section 74.1204 to ensure the applicability of that rule's co-channel and first, second and third adjacent channel contour protections to FM booster applications in addition to FM translator applications. It makes sense, and will preserve Commission resources, to apply the same interference protections governing FM translators also to FM boosters. After all, a radio receiver subject to interference cannot distinguish between interference from a booster and that from a translator. Nor do the laws of physics act differently for FM translators versus FM boosters – if one would cause interference to co-channel or adjacent channel stations, so would the other.

FM boosters and FM translators were not always subject to disparate application interference procedures. FM booster stations were conceived as "a special class of FM translators" licensed only to the primary station's licensee and only on the same output channel. 3/ The FM booster and translator services were jointly established by the Commission to "provide FM radio service to areas and populations which are unable to receive satisfactory service by reason of distance or intervening terrain obstructions." 4/ From the outset, these secondary services were "authorized subject to the condition that [they] will not cause

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2/ A limited number of pre-1964 grandfathered short-spaced FM stations are excepted from interference protection to grandfathered second and third adjacent channel short-spaced stations. *See* 47 C.F.R. § 73.213(a)(4).

3/ *See Report and Order, Amendment of Part 74 of the Commission' Rules Concerning FM Booster Stations and Television Booster Stations*, 2 FCC Rcd 4625 at ¶ 2 (1987) ("1987 R&O"); *Report and Order, Amendment of Part 74 of the Commission's Rules and Regulations to Permit the Operation of Low Power FM Broadcast Translator and Booster Stations*, 20 RR 2d 1538 at ¶ 18 (1970) ("1970 R&O").

4/ 1970 R&O at ¶ 2.

interference to off-the-air reception by the public of the signals of any other authorized station." 5/ To this day, the operation of FM boosters and translators equally are subject to cessation pursuant to Section 74.1203 of the Commission's Rules. 6/

Except for the channel of operation, FM boosters and FM translators licensed to the primary FM station's operator are essentially interchangeable. The contours of FM boosters and FM translators that are licensed to the primary station's licensee may not extend past the protected contour of the primary FM station. 7/ In such instances, the FM translator and booster differ only in the channel of broadcast – the booster broadcasts on the same channel as the primary station; the translator broadcasts on a different channel. After operations commence, regardless of the channel of operation, Section 74.1203 applies equally to FM boosters and to FM translators so that neither may operate so as to cause objectionable interference to other stations.

Notwithstanding the basic similarities between FM boosters and FM translators, the Commission created a distinction at the *application* stage regarding predicted interference to co- and adjacent channel stations: the predicted contour overlap restrictions of Section 74.1204(a) apply to FM translator applications but not to FM booster applications. That

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5/ 1970 R&O at ¶ 3 (discussing FM translators); *see id.* at ¶ 17 (same rules, procedures and policies apply to FM boosters and FM translators except as specifically set forth in rules).

6/ Section 74.1203 provides for cessation of an FM booster's or FM translator's operation when it causes any actual interference to: the transmission of any authorized broadcast station, the reception of the input signal of any TV translator, TV booster, FM translator or FM booster station, or the direct reception by the public of the off-the-air signals of any authorized broadcast station.

7/ *See* 47 C.F.R. § 74.1232(f) (FM boosters limited to serve areas within the protected contour of the primary station); 47 C.F.R. § 74.1232(d) (FM translator coverage contour limited by the protected contour of the commercial primary FM station unless FM translator is licensed to an entity without any interest in or connection with the primary FM station).

is, pursuant to Section 74.1204(a), an applicant for an FM translator must demonstrate that there will be no overlap of interfering and protected contours to co-channel and first, second and third adjacent channel stations, while an applicant for an FM booster need not.

In its 1987 revision of the FM booster rules, the Commission did not dispute the obligation of FM boosters to provide protection to co-channel and first, second and third adjacent channel stations, but instead chose to rely on the *post-operation* protections of Section 74.1203. 8/ That rule allows a FM booster to be authorized, built and operated regardless of predicted contour overlaps to pre-existing stations. Pursuant to Section 74.1203, only once the FM booster begins operations may the affected station file complaints that may lead the Commission to terminate the FM booster's operating authority. In its 1987 action, the Commission had hoped that complaints of interference from FM boosters would be rare, stating: "Because boosters generally will be located in areas characterized by large and abrupt variations in terrain and where the density of full service stations is likely to be low, it is unlikely that their signals will interfere with second and third adjacent channel stations." 9/ Thus, the Commission presumed that the complaint and cessation provisions of Section 73.1203 would suffice in the FM booster context.

8/ *See* 1987 R&O at ¶ 30.

9/ *Id.* The Commission focused on second and third channel adjacent channel situations because it was of the opinion that other FM booster requirements would provide a degree of interference protection relating to co-channel and first adjacent channel stations: co-channel protection would be provided by the requirement that booster service not extend the service area of the primary station, *see* 1987 R&O at ¶ 27, and first adjacent channel protection would be provided by requiring a minimum 6 dB ratio of the adjacent channel signal to the booster within the adjacent channel's predicted service contour, *see* 1987 R&O at ¶ 29. For consistency and administrative ease, all of the contour overlap provisions of Section 74.1204(a) -- whether for co-channel or first, second or third adjacent channels -- should apply equally to FM translators and FM boosters.

Unfortunately, Section 73.1203 does not in today's environment adequately protect existing stations from FM booster interference. There are no requirements that FM boosters actually locate in uneven terrain or low station density, and many do not. 10/ Moreover, the post-operation remedies of Section 74.1203 are -- in this day and age of FCC personnel reductions and interference-adverse listenership -- poor substitutes for application-stage enforcement of predicted interference standards. A licensee subject to FM booster interference is required to document complaints from listeners who just as easily will tune out their station to listen to other, clearer signals. Then the license must initiate a complaint proceeding at the FCC, all the while losing listeners every day that the booster station remains on the air until action is taken by the FCC. With jurisdiction over a record number of full power FM stations, plus a growing slate of low power FMs, the Commission has fewer resources than ever to adjudicate interference complaints. With digital radio on the horizon and satellite radio delivery now here, more than ever FM stations require clear, interference-free signals. It is an inefficient use of Commission resources and an unfair burden on stations subject to interference for the Commission's rules to permit the authorization of FM boosters whose predicted contours overlap with the protected contours of co- and first, second and third adjacent channel stations. The Commission does not authorize such protected contour overlaps for full powered FM stations or for low power LP100 stations or for FM translators. It is incongruous for it to authorize in the first instance FM boosters whose predicted interfering contours overlap the protected contours of authorized stations. The Commission should fix this FM booster loophole.

Moreover, while fill-in FM translators and FM boosters are essentially similar services, there is one difference that warrants greater, not lesser, vigilance against predicted

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10/ *See* Attached Engineering Statement.

interference from FM boosters. That is, while FM translators are limited to a maximum effective radiated power ("ERP") of 250 watts, 11/ FM boosters may operate at up to 20 percent of the maximum power level authorized for their primary FM station's class. 12/ Consequently, an FM booster may operate at up to 20 kilowatts ERP 13/ -- a greater ERP than all Class A stations and greater than many Class B1 and Class C3 stations. 14/ Such potentially powerful FM booster stations must be subject at least to the same application-stage requirements to protect co-channel and first, second and third adjacent channel stations as are required for often less powerful full service FM, FM translator and LP100 stations.

For the foregoing reasons, it is respectfully submitted that the Commission revise Section 74.1204 of its rules so that FM booster applications are subject to the same contour protection obligations that govern FM translator applications. 15/

11/ *See* 47 C.F.R. §74.1235(a).

12/ *See* 47 C.F.R. §74.1235(c).

13/ Class C1, C0 and C stations have 100 kilowatt ERP maximums. *See* 47 C.F.R. §211(b).

14/ *See* 47 C.F.R. §211(a) (authorized ERP of Class A stations range from 01. to 6 kilowatts; Class B1 and Class C3 authorized ERPs range from 6 to 25 kilowatts).

15/ The suggested revisions to Section 74.1204 are provided at Appendix A hereto.

Accordingly, KHWY respectfully requests that the Commission issue a Notice of Proposed Rule Making to amend Section 74.1204 to specify FM booster application-stage prohibited contour overlaps to co-channel and first, second and third adjacent channel authorizations.

Respectfully submitted,

KHWY, INC.

By: _____
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Its Attorneys

February 11, 2002

APPENDIX A

Proposed Revision of 47 C.F.R. Section 74.1204

Section 74.1204 to be amended by revising paragraphs (a), (c) and (f) and by adding new paragraph (h) as follows:

§74.1204 Protection of FM broadcast, FM Translator and LP100 stations.

(a) An application for an FM booster or an FM translator station will not be accepted for filing if the proposed operation would involve overlap of predicted field contours with any other authorized commercial or noncommercial educational FM broadcast stations, FM translators, and Class D (secondary) noncommercial educational FM stations; or if it would result in new or increased overlap with an LP100 station, as set forth:

(1) Commercial Class B FM Stations (Protected Contour: 0.5 mV/m)

Frequency separation	**Interference contour of proposed FM booster or translator station**	**Protected contour of commercial Class B station**
Co-channel	0.05 mV/m (34 dBu)	0.5 mV/m (54 dBu)
200 kHz	0.25 mV/m (48 dBu)	0.5 mV/m (54 dBu)
400 kHz/600 kHz	50.0 m V/m (94 dBu)	0.5 mV/m (54 dBu)

(2) Commercial Class B1 FM Stations (Protected Contour: 0.7 mV/m)

Frequency separation	**Interference contour of proposed FM booster station or translator station**	**Protected contour of commercial Class B1 station**
Co-channel	0.07 mV/m (37 dBu)	0.7 mV/m (57 dBu)
200 kHz	0.35 mV/m (51 dBu)	0.7 mV/m (57 dBu)
400 kHz/600 kHz	70.0 mV/m (97 dBu)	0.7 mV/m (57 dBu)

APPENDIX A

Proposed Revision of 47 C.F.R. Section 74.1204

(Continued)

(3) All Other Classes of FM Stations (Protected Contour: 1 mV/m)

Frequency separation	**Interference contour of proposed FM booster station or translator station**	**Protected contour of any other station**
Co-channel	0.1 mV/m (40 dBu)	1 mV/m (60 dBu)
200 kHz	0.5 mV/m (54 dBu)	1 mV/m (60 dBu)
400 kHz/600 kHz	100 mV/m (100 dBu)	1 mV/m (60 dBu)

(4) LP100 stations (Protected Contour: 1 mV/m)

Frequency separation	**Interference contour of proposed FM booster station or translator station**	**Protected contour of LP100 LPFM station**
Co-channel	0.1 mV/m (40 dBu)	1 mV/m (60 dBu)
200 kHz	0.5 mV/m (54 dBu)	1 mV/m (60 dBu)

* * * *

(c) An application for a change (other than a change in channel) in the authorized facilities of an FM booster station or an FM translator will be accepted even though overlap of field strength contours would occur with another station in an area where such overlap does not already exist, if:

* * * *

(f) An application for an FM booster station or an FM translator will not be accepted for filing even though the proposed operation would not involve overlap of field strength contours with any other station, as set forth in paragraph (a) of this section, if the predicted 1 mV/m field strength contour of the FM booster station or the FM translator will overlap a populated area already receiving a regularly used, off-the-air signal of any authorized co-channel, first, second or third adjacent channel broadcast station, including Class D (secondary) noncommercial educational FM stations and grant of the authorization will result in interference to the reception of such signal.

* * * *

(h) Applications for new authority or to modify an existing FM booster station must specify facilities that comply with the provisions of this section.

ENGINEERING STATEMENT
RE RULE MAKING PETITION TO AMEND COMMISSION'S TECHNICAL RULES APPLICABLE TO FM BOOSTER STATIONS

FEBRUARY 2002

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Sudhir K. Khanna, being duly sworn upon his oath, deposes and states:

That he is a registered professional engineer in the District of Columbia, holds the degree of Master of Science in Electrical Engineering, and is Secretary-Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio-Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction; and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts, he believes them to be true.

S. K. Khanna

Sudhir K. Khanna
District of Columbia
Professional Engineer
Registration No. 8057

Subscribed and sworn to before me this 7th day of February, 2002.

Carol L. Lyon
Notary Public

My Commission Expires:

2/28/2003

This engineering statement has been prepared on behalf of KHWY, Inc. ("KHWY") in support of its petition for a rule-making to modify the Commission's technical rules with respect to FM booster stations. KHWY is the licensee of FM station KHYZ, Mountain Pass, California which currently operates on Channel 258B (99.5 MHz) with 8.4 kW effective radiated power (ERP) and 551 meters antenna height above average terrain (HAAT). Pursuant to MM Docket No. 96-171, the Commission has conditionally modified the license for KHYZ to change its operating frequency from Channel 258B to Channel 259B (99.7 MHz).

At present, the Commission's rules do not require applicants for new or modified FM booster stations to demonstrate that there would be no predicted interference to co-channel or first, second, and third-adjacent channel FM stations, translators or boosters stations although such showing is required of the applicants for new or modified FM translator stations. Applicants for low power FM (LPFM) stations are required also by the Commission to demonstrate compliance with specified minimum separation distance requirements before they can be granted.

KHWY believes technically there is no difference between the FM boosters and translators. They operate in the same frequency band and modulation scheme. The same laws of physics apply to the propagation of FM signals whether it is an FM translator or booster. An FM radio receiver cannot differentiate interference caused by an FM translator or an FM booster. In addition, FM boosters are permitted a maximum of 20% power of the primary station's power. Thus, an FM booster station affiliated with a Class C FM station can operate with up to 20 kW effective radiated power. Full-service Class A FM stations are only permitted a maximum of 6 kW effective radiated power. Depending on the antenna height above average terrain, an FM booster station can have facilities much greater than Class A and even greater than the minimum

facilities of full-service Class B1 and Class C3 FM stations. In contrast, the Commission's rules allow a maximum of only 250 watts for FM translators and 100 watts for LPFM stations. As such, there is a greater potential for interference to be caused by FM boosters than FM translator stations. Therefore, KHWY believes the same technical rules should be applicable to boosters as those for FM translators with respect to protection of FM stations.

To illustrate the extent of predicted interference, we have conducted engineering studies with respect to a proposed FM booster station KPXC, Las Vegas, Nevada, FCC Facility ID No. 136175. Claire Benezra, permittee of a new full-service FM station KPXC, Indian Springs, Nevada, has proposed KPXC-1 as an FM booster station at Las Vegas, Nevada on Channel 257D (99.3 MHz) with 6 kW maximum effective radiated power and 1027 meters antenna height above mean sea level at the following geographic coordinates: N 36° 00' 29", W 115° 00' 20". See FCC File No. BNPFTB-20010831ACX. The primary FM station, KPXC, Indian Springs, Nevada, Facility ID No. 11614, is authorized, pursuant to a construction permit, to operate with 31 kW ERP and 690 meters HAAT from an antenna site located 61.5 km away from the FM booster site. See FCC File No. BMPH-20010814AAX. The proposed FM booster antenna radiation center of 1027 meters above mean sea level results in 336 meters antenna height above average terrain (HAAT). Based on 6 kW maximum ERP, the proposed KXPC-1 FM booster would have a reference distance to its 1.0 mV/m contour of 47.7 km. These facilities exceed the maximum facilities for a full-service Class B1 or C3 FM stations[1].

The proposed FM booster station, KPXC-1, would be operating on a frequency which would be second-adjacent channel to the KHYZ operation on Channel 259B. The attached

[1]The reference distance to 1.0 mV/m contour for Class B1 and C3 stations is 39 km based on maximum facilities of 25 kW ERP and 100 meters HAAT.

Exhibit E-1 shows the protected 0.5 mV/m (54 dBu) contour of KHYZ and the proposed interfering contour of KPXC-1.[2] The proposed KPXC-1 interfering contour (50 mV/m or 94 dBu) is based on the desired to undesired signal ratio of 40 dB. This ratio is used to predict interference between two FM stations operating on two channels apart and is listed in Sections 73.215, 73.509 and 74.1204 of the Commission's rules. There is predicted harmful interference to the protected service area of KHYZ from the proposed KPXC-1 operation within the predicted 50 mV/m (94 dBu) contour of KPXC-1 which such contour lies wholly within KHYZ's protected 0.5 mV/m (54 dBu) contour. This predicted interference area covers 37 square km and 33,500 population (2000 census).

If KPXC-1 was a proposal for an FM translator, it would not be able to request more than 23 watts ERP based on 336 meters HAAT. Even with such a low power, the Commission would not permit its operation under its current rules because of the overlap of its predicted interfering contour with the protected service area of KHYZ.

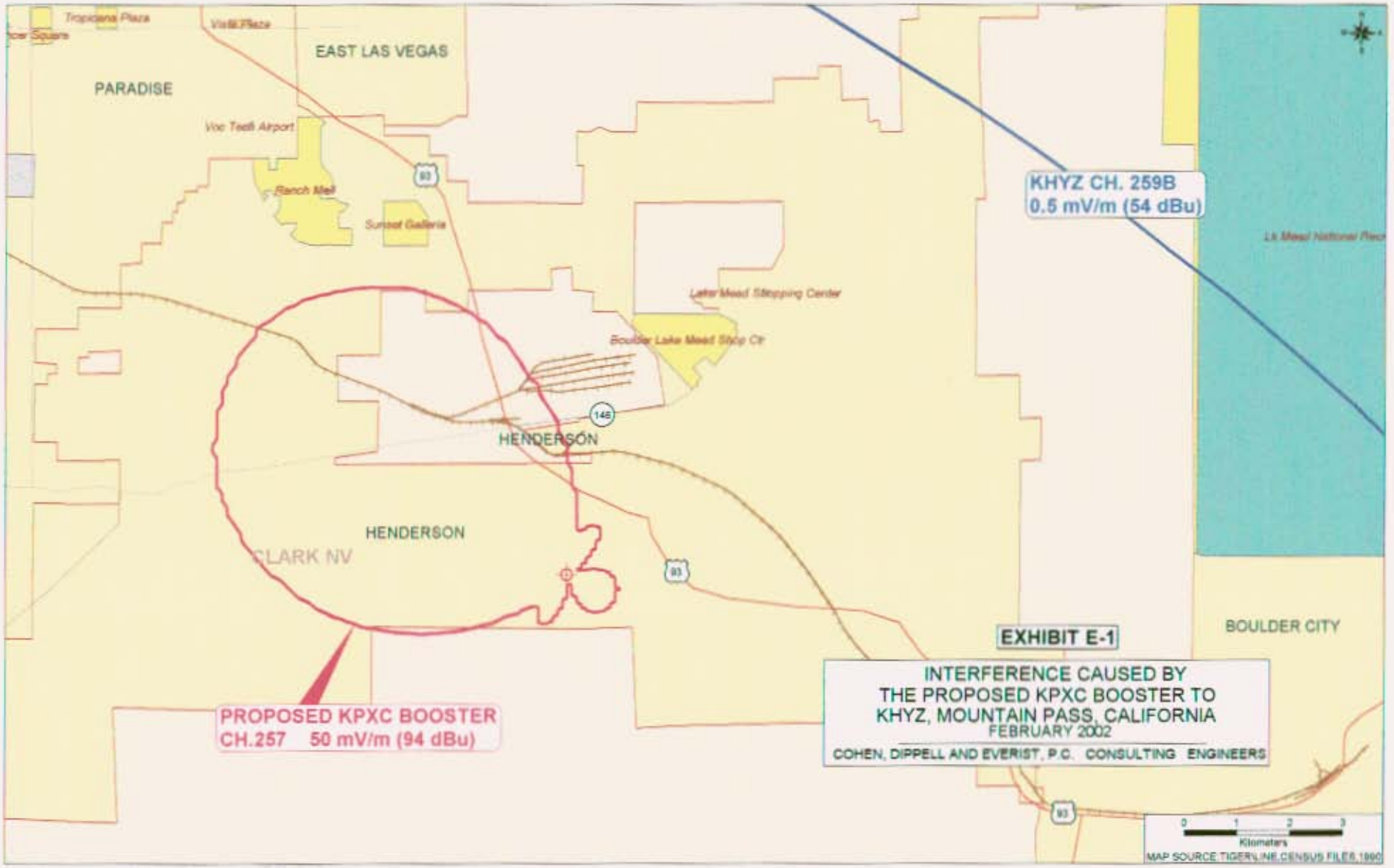
FM boosters were envisioned to provide FM service to smaller communities and sparsely populated areas which were "shadowed" from the primary FM stations. However, many FM boosters are being sited in heavily populated areas in communities which are larger than the community of the primary FM station. For example, the proposed KPXC-1 FM booster is located in the Las Vegas area while the principal community of the primary FM station is Indian Springs, Nevada, over 60 km to the northwest of the booster site. The proposed KPXC-1 FM booster would serve 1,338,666 people within its predicted 1.0 mV/m contour while the primary FM

[2]As recognized by the Commission in MM Docket No. 96-171, Report and Order (Revised), 14 FCC Rcd 10568 (1999), KHYZ was granted a waiver of Section 73.211 of the Commission's Rules in order to operate with Class B "superpower" specifications of 8.4 kW ERP and 551 meters HAAT. Exhibit E-1 reflects such authorized superpower.

station KPXC would serve a total population of 1,350,642 people (including the booster service area which is located inside the primary FM station) or a difference of only 11,976 people between the predicted coverage of the main station and the booster. It is assumed that KPXC desires to construct an FM booster station in the Las Vegas area because it cannot effectively reach the metropolis of Las Vegas from its primary FM station, not because service to Indian Springs or other sparsely served areas are affected by rough terrain.

The Commission may have adopted less restrictive technical standard for FM boosters than FM translators based on the assumptions that they would be mainly providing service to smaller communities and sparsely populated areas. However, as the above example shows this is not the case. Therefore, KHWY believes the Commission must amend its FM booster rules so that they are consistent with the FM translator rules. The proposed amendment of the FM booster rules will result in avoidance of unnecessary disputes over actual interference and its satisfactory resolutions.

In conclusion, KHWY requests that the Commission modify its FM booster rules in a manner which requires applicants for new or modified stations to comply with the same technical rules as applicable to FM translators with respect to protection of co-channel, first, second, and third-adjacent channel FM stations.


EAST LAS VEGAS
PARADISE
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Sunset Galleria
Lake Mead Shopping Center
Boulder Lake Mead Strip Ctr
HENDERSON
HENDERSON
CLARK NV
BOULDER CITY
KHYZ CH. 259B
0.5 mV/m (54 dBu)
PROPOSED KPXC BOOSTER
CH.257 50 mV/m (94 dBu)
EXHIBIT E-1
INTERFERENCE CAUSED BY
THE PROPOSED KPXC BOOSTER TO
KHYZ, MOUNTAIN PASS, CALIFORNIA
FEBRUARY 2002
COHEN, DIPPELL AND EVERIST, P.C. CONSULTING ENGINEERS
Kilometers
MAP SOURCE:TIGER/LINE,CENSUS FILES,1990

CERTIFICATE OF SERVICE

I, Jerilyn Grim, hereby certify that on this 11th day of February, 2002, a copy of the foregoing Petition for Rule Making, was sent by hand delivery to:

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